ABSTRACT

Transition inserts and methods of joining two dissimilar metals are described. In one implementation a transition insert is described. The transition insert includes a first member comprising essentially steel, a second member comprising Al and between about 1.8% and 10.0% Si. The first member and the second member are joined to one another by roll bonding or explosion bonding. In another implementation the transition insert includes an interlayer which is joined to one of the first member or the second member. In this implementation the first member and the second member are joined to one another at the interlayer by the roll bonding or the explosion bonding. In another implementation, a method of joining two dissimilar metals is described. The method includes bonding a first member comprising essentially steel with a second member comprising Al and between about 1.8% and 10.0% Si.